

ABSTRACT

A ratchet useful for wrenches is provided having a pawl and a main gear that reside in a case, wherein the pawl is biased to engage teeth of the main gear to permit rotation in a selected direction. According to an aspect of the invention, a biasing mechanism is housed within the pawl and acts outwardly from the pawl against one or more ramped surfaces formed in the case, thereby biasing the pawl rotationally. For example, the biasing mechanism may be a coil spring housed within a bore extending through the pawl, aligned parallel to an axis of rotation of the pawl. The spring is compressed between two ball bearings, urging the ball bearings axially outwardly against the ramped surfaces. The ramped surfaces are shaped so that a component of the force of the ball bearings creates a rotational moment on the pawl.

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